NOTE XVIII.

ON THE GENUS NOTOPYGOS,

WITH SOME NEW SPECIES FROM THE MALAY-ARCHIPELAGO COLLECTED BY THE SIBOGA-EXPEDITION

BY

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The genus *Notopygos* was based by Grube in 1855 [1]) on an Amphinomid worm from St. Helena, *N. crinitus*, especially characterized by having the anus situated dorsally at some distance from the last segment. Some time afterwards [2]) he described another species, *N. ornatus*, from Puntarenas in Costa Rica and mentioned the presence of two dorsal cirri. Meanwhile (1857) Kinberg [3]), probably unacquainted with the last named species, published a new diagnosis of the genus, in which not only the characteristical situation of the anus was not mentioned, but also added to it "cirrus dorsualis pedis unicus". It may be presumed, that the worms collected by him in the neighbourhood of St. Helena and considered to be young specimens of *N. crinitus*, belonged to an other genus, because he described the caruncle as "sulco longitudinali" instead of "crista media praeditus". Moreover he introduced the new genus *Lirione*, characterized by having "cirri dorsuales utrinque bini", in behalf of two undescribed Amphinomidae, *L. splendens* from Tahiti and *L. maculata* from Panama. Kinberg therefore published

1) Beschreibungen neuer oder wenig bekannter Anneliden: Archiv für Naturgeschichte, Jahrg. XXI, Bd. I, S. 93.

2) Annulata Örstediana, Naturh. Foren. Videnskr. Meddelelser, 1856-58, p. 27.

3) Öfversigt af Kongl. Vetensk.-Akad. Förhandl. Årg. XIV, 1857, p. 11.

an erroneous diagnosis of the genus *Notopygos* and proposed the new name *Lirione* for two species, undoubtedly belonging to the first named genus, that of Grube. Baird [1]) did not recognize this error, that was corrected by subsequent investigators (Ehlers, MacIntosh a.o.). Nowadays about a dozen of species of *Notopygos* are described, but, as is rightly stated by Potts [2]), they are unfortunately rather ill-defined and so it is sometimes a very difficult, if not an impossible task to recognize the species. Potts found that one or more of the anterior segments always possess denticulated setae, even when in an other region of the body they are not present. I for one think however, that the presence or absence of serrations in the setae is not the only character that must be taken into account, as, like in *Chloeia*, the branchiae do not seem to commence always on the same segment and also the number of the folds of the caruncle and the situation of the anal pore differs in different species, though unfortunately in several cases this is not mentioned by the authors. In the following table the hitherto described species of *Notopygos* are enumerated, especially in order to demonstrate the numerous gaps in our knowledge of this genus.

NOTOPYGOS.

A. Branchiae commencing on the 4th segment.

1. *ornatus* Gr. loc. cit. Puntarenas (Costa Rica).

B. Branchiae commencing on the 5th segment.

a. Anus situated on segment 21 (Ehlers), intersegm. groove 21/22 (Grube).

2. *crinitus* Gr. loc. cit. St. Helena, Florida, Portorico.

b. Anus situated on segment 22 (Baird), 23 (Horst).

3. *Rayneri* Baird, loc. cit. p. 226, pl. IV, fig. 6, a,b. North-east coast of Australia.

1) Journal of the Linnean Society, Zoology, Vol. X, 1870, p. 226.

2) Trans. of the Linnean Society, Zoology, (2) Vol. XII, 1907/09, p. 358. *Notopygos ornatus* Gr., *N. (Lirione) Rayneri* Baird and *N. (Lirione) splendens* Kinb. have been overlooked by this author.

c. Anus situated on segment 23 or intersegm. groove 23/24.

4. *cirratus*, n. sp. Malay Archipelago.

5. *maculatus* Kinb. l. c. Panama, Philippines (Grube) [1]), Amboina (Malaguin et Dehorne) [2]).

6. *sibogae*, n. sp. Malay Archipelago.

d. Anus situated on segment 24.

7. *Gardineri* Potts, loc. cit. p. 362, pl. 45, fig. 8; pl. 46, figs. 6—8. Amirante Islands.

e. Anus situated on segment 25 (22 to 25 Potts).

8. *gigas*, n. sp. Malay Archipelago.

9. *variabilis* Potts. Maldives.

f. Anus situated on segment ? .

10. *flavus* Hassw. Proc. Linn. Soc. of N. S. Wales, III, 1879, p. 341. Darnley Island.

11. *labiatus* McInt. Challenger Annelida, p. 19, pl. II, fig. 6; pl. IV, fig. 2; pl. II A, figs. 5, 6. Basilan Strait; Amboina (Mal. & Deh.).

C. Branchiae commencing on the 6th segment.

a. Anus situated on segment 21.

12. *hispidus* Potts, loc. cit. p. 359, pl. 45, figs. 6, 7; pl. 46, figs. 3—5. Amirante Islands.

b. Anus situated on segment ? .

13. *megalops* McInt. loc. cit. p. 17, pl. I, fig. 1; pl. II A, figs. 3, 4. Off the Bermudas.

With regard to *Notopygos* (*Lirione*) *splendens* Kinb. we know neither the situation of the first branchia nor that of the anal pore.

Notopygos parvus Hassw., from Tacking point (loc. cit.), certainly does not belong to this genus and, as is suggested by Hasswell himself, may probably turn out to be the type of a new genus.

1) Beiträge zur Annelidenfauna der Philippinen, p. 8, pl. 1, fig. 3.

2) Annélides d'Amboine: Revue Suisse de Zoologie, t. XV, 1907, p. 357.

Notopygos gigas, n. sp.

Siboga-exped. Stat. 296, Anchorage off Noïmini (South-coast of Timor), surface; 9 specimens.

Body of an oblong oval shape and a length from 45 to 75 mm.; number of segments from 33 to 36. Colour pale buff, in the middle of the dorsum brown or violet, irregularly interrupted by a number of white lines; a dark band around the base of each notopodium and also the main stem of the branchiae dusky coloured. The horizontal plate of the caruncle, as well as the palpi have a dark hue, and the accessory cirri of the anterior segments show a violet stripe. Over the dorsalside of each segment there runs a transverse groove, dividing it into an anterior and a posterior area; the last one is strongly wrinkled, but the anterior area is smoother and usually divided into three triangular fields. Over the middle of the ventral side a couple of dark parallel longitudinal lines. The caruncle has a plaited crest arising from a horizontal plate, with 30 folds along its margin on each side; it extends to the 6th segment and is rounded posteriorly. The unpaired antenna short, measuring about one third of the caruncle; the anterior pair of eyes larger than the posterior one.

The mouth seems to be limited posteriorly by the 4th segment, that is strongly folded in its middle. The anus is situated on the anterior part of segment 25, usually at the top of a conical papilla. The branchiae commence on the 5th segment. The anal cirri are two club-shaped processes, composed of a conical basal joint and a globular terminal piece, that has a dark hue. The bristles are vitreous; those of the dorsal fascicles with a pale greenish hue. The dorsal as well as the ventral bristles are bifurcate, smooth, with a yellow tip. The anterior three segments only contain denticulated setae with a rather divergent fork; they are usually triserrate in the first segment, bi- or uniserrate in the next two.

Notopygos sibogae, n. sp.

Siboga-exped. Stat. 144, Anchorage north of Salomakiee Island; Stat. 169, Anchorage of Atjatuning; Stat. 234, Nusa-Laut-Island.

Length of the largest specimen 35 mm., its breadth $8^1/_2$ mm. (without bristles); the number of its segments amounts to 30.

Body of an elongated oval shape, somewhat obtuse anteriorly, tapering posteriorly; its lateral sides rectangular. On the dorsum of each segment there is an area having the shape of a triangle, the base of which is formed by the frontal margin of the segment, whereas the top lies on its middle; from the middle of the base of the triangle a line is running to its lateral sides, dividing thus the triangular field into three smaller ones. The dorsal side colourless, except a narrow, violet band around the notopodium and a violet stripe over the middle of the accessory cirrus of the anterior five segments; ventral side buff coloured, whereas the palps have a dusky hue like the horizontal plate of the caruncle. The caruncle extends to the 6th segment; its horizontal plate is furnished on each side with 16 to 17 folds. The unpaired antenna short, measuring about one third of the length of the caruncle. The mouth seems to be limited by the 4th segment, that is folded longitudinally. The branchiae commence on the 5th segment; the anus is situated on segment 23 at the top of a papilla.

The dorsal setae are greenish, the ventral ones opalescent. All the bristles bifurcate, smooth, except those of the first segment that have the long limb more divergent, with four faint serrulations.

The smallest of the specimens described in this periodical, Vol. VIII, 1886, p. 168, that from Amboina, probably belongs also to this species and was incorrectly identified with *Notopygos crinitus*; for in this species the anal opening is situated on the posterior part of segment 21, according to Ehlers, on the intersegmental groove 21/22, according to Grube.

Notopygos cirratus, n. sp.

Siboga-exped. Stat. 99, Anchorage of North-Ubian; Stat. 23, 8° 48′ Lat. S., 115° 40′ Long. E.

The largest specimen measures $18^1/_2$ mm. in length; the number of its segments amounts to 28. The ground colour is leady grey; a dark band runs around the base of each notopodium and the basal joint of the dorsal cirri is violet. The anterior part of the dorsal side of each segment is divided into three areas nearly as in *Notopygos sibogae*. The caruncle extends to the 5th segment and is furnished on each side with 11 folds. The median antenna is very short, about a fifth of the length of the caruncle. The anal opening is situated on a papilla in the intersegmental groove 23/24. The accessory cirri are much longer and thicker than the branchial filament and extend to the middle of the dorsum. The branchiae commence on the 5th segment. The ventral as well as the dorsal setae are bifurcate and denticulated; in the ventral bristles the long limb is furnished with a couple of conspicuous denticles, whereas in the dorsal ones it shows usually only a single serrulation.

Sangiria, n. g.

Body oblong oval, agreeing in general appearance with that of *Chloeia* and *Notopygos*, however its caruncle without crest or folds, wedge-shaped, with indistinct transverse grooves. Eyes absent. Branchiae small, only consisting of a few filaments; first pair of them on the fifth segment. Branchial cirri present. Ventral bristles denticulated. Anal cirri paired.

Sangiria hystrix, n. sp.

Siboga-exped. Stat. 126, 3° 27′.1 Lat. N., 125° 18′.7 Long. E., depth 2053 M.

Length of the worm about 9 mm.; the number of its segments 19. Body oblong oval, with long, opalescent bristles,

much projecting on each side, especially in the posterior segments and giving to the animal a spiny appearance. No eyes are visible. The anterior part of the head shows a dark pigment on its dorsal side, except on a small spot in the middle and a crescent-shaped one on each side, that remain uncoloured. Caruncle wedgeshaped, with five indistinct, transverse grooves, of a rather loose structure and extending to the 4th segment; the median antenna short. The mouth seems to be limited posteriorly by the third segment, that is folded longitudinally in the middle; the surface of the palps is covered with small black dots, like in *Bathychloeia*. The branchial cirri are much longer than the filaments of the gills and extend to the middle of the dorsum. Ventral setae with 2 to 4 conspicuous denticulations, dorsal ones smooth or only with a couple of faint denticles. The anal orifice probably terminal. The anal cirri mushroom-shaped, with a short stalk and a round distal part with faintly folded border.

Leyden Museum, April 1911.